

ABSTRACT OF THE DISCLOSURE

There is provided a method for fabricating a FinFET in which a self-limiting reaction is employed to produce a unique and useful structure that may be detectable with simple failure analysis techniques. The structure is an improved vertical fin with a gently sloping base portion that is sufficient to reduce or prevent the formation of an undercut area in the base of the vertical fin. The structure is formed via the self-limiting properties of the reaction so that the products of the reaction form both vertically on a surface of the vertical fin and horizontally on a surface of an insulating layer (e.g., buried oxide). The products preferentially accumulate faster at the base of the vertical fin where the products from both the horizontal and vertical surfaces overlap. This accumulation or build-up results from a volume expansion stemming from the reaction. The faster accumulation in the corner areas near the base, limits the reaction first in the base region, thereby etching less material and forming the remaining, un-etched material into the sloping dielectric base.